

A M E N D M E N T

IN THE CLAIMS:

Please cancel claim 4 and amend claims 1, 5, 10, 17, and 20, so that the claims read as follows:

1. (Currently amended) A method of aligning signals from a first receiver located in a first clock domain to a second receiver located in a second clock domain, the method comprising the steps of:

creating a programmable delay element between the first and second receivers wherein creating the programmable delay element comprises:

providing at least one selectable delay for each of a first plurality of signal lines adapted to receive signals transmitted from the first receiver to the second receiver;
and

providing at least one selectable delay for each of a second plurality of signal lines adapted to receive signals transmitted from the second receiver to the first receiver;
and

selectively adding delay via the programmable delay element to the signals until the signals are aligned.

2. (Original) The method of claim 1 wherein creating the programmable delay element comprises providing at least one selectable delay for each of a plurality of signal lines between the first and second receivers.

3. (Original) The method of claim 2 wherein each selectable delay comprises a latch.
4. (Canceled)
5. (Currently amended) The method of claim 4 1 wherein:
each selectable delay for the first plurality of signal lines comprises at least one latch that is clocked by a clock of the second clock domain; and
each selectable delay for the second plurality of signal lines comprises at least one latch that is clocked by a clock of the first clock domain.
6. (Original) The method of claim 1 wherein selectively adding delay via the programmable delay element to the signals until the signals are aligned comprises:
(a) testing operation of the first and second receivers in response to differing delays between signals transmitted between the first and second receivers;
(b) determining one or more delays that cause the first and second receivers to exchange signals without errors; and
(c) employing the one or more delays to align signals transmitted between the first and second receivers.
7. (Original) The method of claim 6 wherein steps (a)-(c) are performed automatically.
8. (Original) A method of aligning signals transmitted between a first receiver located in a first clock domain and a

second receiver located in a second clock domain, the method comprising the steps of:

(a) providing at least one selectable delay for each of a first plurality of signal lines adapted to receive signals transmitted from the first receiver to the second receiver;

(b) providing at least one selectable delay for each of a second plurality of signal lines adapted to receive signals transmitted from the second receiver to the first receiver;

(c) testing operation of the first and second receivers in response to differing delays between signals transmitted between the first and second receivers;

(d) determining one or more delays that cause the first and second receivers to exchange signals without errors; and

(e) employing the one or more delays during subsequent transmission of signals between the first and second receivers.

9. (Original) The method of claim 8 wherein steps (c)-(e) are performed automatically.

10. (Currently amended) An apparatus for use with an asynchronous interface having first receiver that operates in a first clock domain, a second receiver that operates in a second clock domain, and a plurality of signal lines adapted to exchange signals between the first and second receivers, the apparatus comprising:

a first clock domain portion having at least a first delay circuit adapted to selectively introduce a first delay to a signal traveling from the second receiver to the first receiver via a first of the plurality of signal lines; and

a second clock domain portion having at least a second delay circuit adapted to selectively introduce a second delay to a signal traveling from the ~~second~~ first receiver to the ~~first~~ second receiver via a second of the plurality of signal lines.

11. (Original) The apparatus of claim 10 wherein:

the first clock domain portion includes a first plurality of delay circuits, each of the first plurality of delay circuits adapted to selectively introduce a delay to a signal traveling from the second receiver to the first receiver via a different one of a first plurality of signal lines; and

the second clock domain portion includes a second plurality of delay circuits, each of the second plurality of delay circuits adapted to selectively introduce a delay to a signal traveling from the first receiver to the second receiver via a different one of a second plurality of signal lines.

12. (Original) The apparatus of claim 11 wherein each delay circuit of the first plurality of delay circuits includes a plurality of selectable paths, each path having a different delay associated therewith.

13. (Original) The apparatus of claim 12 wherein each path has a different number of latches associated therewith.

14. (Original) The apparatus of claim 13 wherein at least one path has N-1 latches, wherein N equals the number of signal lines between the first and second receivers.

15. (Original) The apparatus of claim 11 wherein each delay circuit of the second plurality of delay circuits includes a plurality of selectable paths, each path having a different delay associated therewith.

16. (Original) The apparatus of claim 15 wherein each path has a different number of latches associated therewith.

17. (Currently amended) An apparatus comprising:

an asynchronous interface having:

a first receiver that operates in a first clock domain;

a second receiver that operates in a second clock domain;

a plurality of signal lines adapted to exchange signals between the first and second receivers;

a supplemental asynchronous interface device (SAID) comprising:

a first clock domain portion having at least a first delay circuit adapted to selectively introduce a first delay to a signal traveling from the second receiver to the first receiver via a first of the plurality of signal lines; and

a second clock domain portion having at least a second delay circuit adapted to selectively introduce a second delay to a signal traveling from the ~~second~~ first receiver to the ~~first~~ second receiver via a second of the plurality of signal lines.

18. (Original) The apparatus of claim 17 wherein the first receiver comprises a first state machine and the second receiver comprises a second state machine.

19. (Original) The apparatus of claim 17 wherein:

the plurality of signal lines comprises:

a first plurality of signal lines that travel through the first portion of the SAID; and

a second plurality of signal lines that travel through the second portion of the SAID;

the first clock domain portion includes a first plurality of delay circuits, each of the first plurality of delay circuits adapted to selectively introduce a delay to a signal traveling from the second receiver to the first receiver via a different one of the first plurality of signal lines; and

the second clock domain portion includes a second plurality of delay circuits, each of the second plurality of delay circuits adapted to selectively introduce a delay to a signal traveling from the first receiver to the second receiver via a different one of the second plurality of signal lines.

20. (Currently amended) A computer program product for aligning signals transmitted via an asynchronous interface between a first receiver located in a first clock domain and a second receiver located in a second clock domain, comprising: a medium readable by a computer, the computer readable medium having computer program code adapted to:

(a) test operation of the first and second receivers in response to differing delays between signals transmitted between the first and second receivers;

(b) determine one or more selectable delays that cause the first and second receivers to exchange signals without errors; and

(c) ~~causing cause~~ the asynchronous interface to employ the one or more selectable delays during subsequent transmission of signals between the first and second receivers wherein the asynchronous interface includes a plurality of signal lines.